

WHAT IS CLAIMED IS:

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1. A file processing unit comprising:
a first signature information producing
unit that produces first signature information, in
response to a close request to close a file, using
10 the data of the file in accordance with a
predetermined rule, the file being used in an
application that is run in a computer system; and
a signature information storage control
unit that correlates the first signature information
15 with the file designated by the close request, and
stores the first signature information in a storage
unit.
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2. The file processing unit as claimed in
claim 1, wherein the first signature information
producing unit has a close-file reading unit that
25 reads the data of the designated file from the
storage device, so that the first signature
information is produced using the data read out by
the close-file reading unit.
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3. The file processing unit as claimed in
claim 1, wherein the signature information storage
35 control unit has a signature information attaching
unit that attaches the first signature information
to the file designated by the close request, so that

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the first signature information and the designated file are collectively stored in the storage unit.

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4. The file processing unit as claimed in claim 1, further comprising a signature attachment determining unit that determines whether signature information should be attached to the file designated by the close request when the close request is issued,

wherein, when the signature attachment determining unit determines that signature information should be attached to the file designated by the close request, the first signature information producing unit produces the first signature information.

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5. The file processing unit as claimed in claim 4, further comprising a mode setting unit that sets a processing mode for attaching signature information at least to the file designated by the close request before the file is used in the application,

wherein the signature attachment determining unit that determines whether signature information should be attached to the file designated by the close request in accordance with the processing mode preset by the mode setting unit.

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6. The file processing unit as claimed in claim 1, further comprising:

5 a second signature information producing unit that produces second signature information in response to an open request to open the file to be used in the application, using the data of the file in accordance with the predetermined rule;

10 a signature agreement determining unit that determines whether the first signature information attached to the file designated by the open request is identical to the second signature information; and

15 a determination result producing unit that produces information representing a determination result of the signature agreement determining unit, the information being supplied to the application.

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7. The file processing unit as claimed in claim 6, wherein the second signature information producing unit has an open-file reading unit that reads the data of the file designated by the open request from the storage unit before a process requested by the open request is completed, so that the second signature information is produced using the data read out by the open-file reading unit.

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8. The file processing unit as claimed in claim 6, further comprising a signature check determination unit that determines whether the first signature information attached to the file designated by the open request and stored in the

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storage unit should be checked when the open request is issued,

wherein, when the signature check determining unit determines that the first signature information attached to the file designated by the open request and stored in the storage unit should be checked, the second signature information producing unit produces the second signature information to be compared with the first signature information.

9. The file processing unit as claimed in claim 8, wherein the signature check determining unit comprises:

a mode setting unit that sets a processing mode for checking at least the first signature information attached to the file designated by an open request before the file is used in the application; and

a mode determining unit that determines whether the first signature information attached to the file designated by the open request and stored in the storage unit should be checked, in accordance with the processing mode preset by the mode setting unit.

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~~10.~~ A file processing unit comprising:
a second signature information producing unit that produces second signature information, in response to an open request to open a file, using the data of the file in accordance with a

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predetermined rule, the file being used by an application that is run in a computer system;

5 a signature agreement determining unit that determines whether the second signature information is identical to first signature information produced utilizing the data of the file designated by the open request and stored, attached to the designated file, in a storage unit; and

10 a determination result producing unit that produces information representing a determination result of the signature agreement determining unit, the information being supplied to the application.

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11. The file processing unit as claimed in claim 10, wherein the second signature information producing unit has an open-file reading unit that reads the data of the file designated by the open request from the storage unit before a process requested by the open request, so that the second signature information is produced using the data read out by the open-file reading unit.

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12. The file processing unit as claimed in claim 10, further comprising a signature check determining unit that determines whether the first signature information attached to the file designated by the open request and stored in the storage unit should be checked when the open request is issued,

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wherein, when the signature check determining unit determines that the first signature

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information attached to the file designated by the open request and stored in the storage unit should be checked, the second signature producing unit produces the second signature information to be
5 compared with the first signature information.

10 13. The file processing unit as claimed in claim 12, wherein the signature check determining unit comprises:

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15 a mode setting unit that sets a processing mode for checking at least the first signature information attached to the file designated by the open request before the file is used in an application; and

20 a mode determining unit that determines whether the first signature information attached to the file designated by the open request and stored in the storage unit should be checked, in accordance with the processing mode preset by the mode setting unit.

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30 ~~14.~~ A file processing unit that is applied to a computer system having a file system that performs processes on a file based on an event issued from an application, said file processing unit comprising:

35 a first signature information producing unit that produces first signature information in accordance with a predetermined rule using the data of the file designated by a file close event issued from the application, before the process specified

by the file close event is completed in the file system;

5 a signature information storage control unit that attaches the first signature information to the file designated by the file close event, and stores the first signature information in a storage unit; and

10 a first returning unit that performs, after the first signature information is produced, a process for returning to the process for the file specified by the file close event in the file system.

15 15. A file processing unit that is applied to a computer system having a file system that performs processes on a file based on an event issued from an application, said file processing unit comprising:

20 a second signature information producing unit that produces second signature information in accordance with a predetermined rule using the data of the file designated by a file open event issued from the application, before the process specified by the file open event is completed in the file system;

30 a signature agreement determining unit that determines whether the second signature information is identical to first signature information produced in accordance with the predetermined rule using the data of the file designated by the file open event and stored, together with the designated file, in a storage unit;

35 a determination result producing unit that produces information representing a determination

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result of the signature agreement determining unit,
the information being supplied to the application;
and

5 a second returning unit that passes the
information representing the determination result to
the file system, and performs a process for
returning to the process for the file specified by
the file open event in the file system.

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16. A file processing unit comprising:
a first signature information producing
15 unit that produces first signature information, in
response to a close request to close a file, using
the data of the file in accordance with a
predetermined rule, the file being used in an
application that is run in a computer system; and
20 a signature information storage control
unit that correlates the first signature information
with the file designated by the close request, and
stores the first signature information in a storage
unit,
25 the file processing unit functioning as an
external unit connected to the computer system.

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17. The file processing unit as claimed
in claim 16, wherein the external unit is
constituted by a PC card.